

REMARKS

Applicant hereby cancels claim 15 without prejudice or disclaimer. Therefore, claims 1-14 and 16-20 are all the claims pending in the application.

Without conceding on the patentability of unamended claim 1, Applicant amends the subject matter of dependent claim 15 into claim 1. Applicant requests that the Examiner enter this amendment because it places the application in better condition for appeal, by narrowing the issues and because no additional searching is required. No additional searching is required because the Examiner has already examined claim 15, which has the same scope as amended claim 1.

Claim Rejections - 35 U.S.C. § 103

Claims 1-20 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Van Buer (US 2003/0198345) in view of Takagi et al. (US 6,259,790), hereinafter “Takagi”. Applicant submits the following in traversal.

Claim 1

Claim 1 recites an AES encryption processor comprising, *inter alia*, first to fourth multipliers respectively computing first to fourth products, which are obtained by multiplication of said substitution value with the first to fourth coefficients, respectively, the first to fourth products corresponding to a same one column of the state, wherein the first to fourth multipliers are Galois field multipliers. Applicant submits that Van Buer and Takagi, alone or in combination, fail to disclose or suggest the above noted claim features for at least the following reasons.

The Examiner asserts that Van Buer discloses that the output of the x-or circuit can form inputs into the substitution circuit and can be treated as a series of various octets on page 7 of the current office action. Accordingly, it appears that the Examiner is interpreting the x-or circuit of Van Buer to correspond to the claimed first to fourth multipliers. Applicant submits that the first to fourth multipliers are Galois field multipliers, as recited in claim 1, and cannot correspond to x-or circuit of Van Buer. Specifically, the x-or operation of Van Buer is defined as an add operation in a Galois filed and not a multiplication operation. Therefore, the x-or circuit of Van Buer is distinct from the claimed Galois filed multipliers. Takagi does not make up for the above noted deficiency.

For at least the reasons submitted above, Applicant respectfully submits that claim 1 is not rendered unpatentable.

For reasons similar to those submitted for claim 1, Applicant respectfully submits that claims 3, 6, 8, 11, 12 and 14 are not rendered unpatentable.

Claims 2, 4, 5, 7, 9, 10, 13 and 16-20, which depend from claims 1, 3, 6, 8 or 12, are not rendered unpatentable at least by virtue of their dependencies.

Further, the Examiner fails to address the features of claims 2, 4, 5, 7, 9, 10, 13 and 16-20. According to 37 C.F.R. § 1.104(c), Applicant notes that in rejecting claims for want of novelty or for obviousness, the pertinence of each reference, if not apparent, must be clearly explained and each rejected claim specified. Since the Examiner has failed to specify each rejected claim, in addition to be patentable by virtue of their dependencies, Applicant maintains that claims 2, 4, 5, 7, 9, 10, 13 and 16-20 are allowable.

Conclusion

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,


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